

REMARKS

I. INTRODUCTION

This application stand with claims 1-21, 25-28, 31-37, and 50-51 where claims 1, 8, 12, 26, and 32 are independent claims. Applicants amended claims 1, 8, 12, 26, and 32 to overcome the rejections as explained below.

II. OBVIOUSNESS REJECTIONS

The Examiner has recited to following rejections:

A. Claims 1, 4, 5, 8, 11, 13-15, 19-21, 26, 32, and 34-35 stand rejected under 35 U.S.C. §103(a) as being obvious to Black, (Black, Christopher L.; Uh- Robert E.; Hines, J. Wesley; "System Modeling and Instrument Calibration Verification with a Nonlinear State Estimation Technique", Maintenance and Reliability Conference Proceedings, May 12 - 14, 1998) in view of Freund (Freund, Rudolf J.; Wilson, William J.; 'Statistical Methods', 1993), Klimasaukas (U.S. Patent No. 6,278,962), and Passera (U.S. Patent No. 6,272,449).

B. Claims 6, 7, 12, 16, 31, 36, and 37 stand rejected under 35 U.S.C. §103(a) as being obvious to Black in view of Freund, Klimasaukas and Rubenstein (Rubinstein, Reuven Y.; 'Simulation and the Monte Carlo Method', 1981, John Wiley & Sons).

C. Claims 17 and 18 stand rejected under 35 U.S.C. §103(a) as being obvious to Black in view of Freund, Klimasaukas, Passera, and Knowledge of one of ordinary skill in the art.

D. Claim 2, 3, 9, 10, 33, and 50 stand rejected under 35 U.S.C. §103(a) as being obvious to Black in view of Freund, Klimasaukas, and Gross (U.S. Patent No. 5,764,509).

E. Claim 25 stands rejected under 35 U.S.C. §103(a) as being obvious to Black in view of Freund, Klimasaukas, Wong (Wong, Man To; Geva, S.; Orlowski, M.; 'Pattern recognition from neural network with functional dependency preprocessing',

1997, Proceedings of IEEE Speech and Technologies for Computing and Telecommunications), and Knowledge of one of ordinary skill in the art.

F. Claim 51 stands rejected under 35 U.S.C. §103(a) as being obvious to Black in view of Freund, Klimasaukas, Wong, and Gross.

G. Claims 27 and 28 stand rejected under 35 U.S.C. §103(a) as being obvious to Black in view of Freund, Klimasaukas, Wong, and Passera.

In response to all of these rejections, Applicants traverse because the cited references do not disclose or suggest all of the features now recited in amended independent claims 1, 8, 13, 26, and 32. Specifically, each independent claim similarly recites that vectors or snapshots are ordered to form an ordinal count representing an 'x' dimension of data while bins or ranges are selected across a magnitude of the data to form a 'y' dimension of the data. This amendment emphasizes the contrast between a clustering system as disclosed in Freund where data is clumped together in groups, and a system where data from each vector or snapshot is placed in a numerical order based on a parameter or sensor value to choose particular representative vectors or snapshots for each range or bin.

None of the references disclose such a system where each vector or snapshot is placed in order by one of its values and then selecting a representative value for defined bins or ranges. In Freund, it is impossible to tell the exact order of each vector based on particular values of the vectors from the Freund histogram recited by the Examiner. In contrast, the histogram in Freund merely groups data together on the x axis and shows the magnitude of each clustered bar on the y axis. Thus, it makes absolutely no suggestion on how to reduce or increase the number of vectors or snapshots to use in a training set as disclosed by the present invention. A correlation equation of Freund cited by the Examiner (page 575) also has nothing to do with determining a representative vector or snap shot for each bin or magnitude range.

Instead, this equation is used to calculate a range-based correlation coefficient that factors in the total number of ranges and the differences among the rank numbers rather than the actual parameter value ranges. Otherwise Applicants repeat their arguments from Amendment B explaining how Freund, Passera, and Rubenstein do not teach all of the features recited in the present independent claims. For these reasons, Applicants submit that the 35 U.S.C. §103(a) rejections of claims 1, 8, 13, 26, and 32, as well as their dependent claims, in view of the various references mentioned above has been overcome. Accordingly, Applicants respectfully request that these rejections of claims 1-21, 25-28, 31-37, and 50-51 be withdrawn.

The amendment to the independent claims are fully supported by FIG. 5 and the corresponding description thereof.

IV. CONCLUSION

In view of the foregoing, Applicants respectfully request reconsideration and allowance of all pending claims. The Examiner is invited to contact the undersigned attorney to expedite prosecution.

Respectfully submitted,
FITCH, EVEN, TABIN & FLANNERY

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